

**ABSTRACT**

A semiconductor apparatus is provided that includes memories for storing an externally input key or data at a received address, key comparison sections for comparing the externally input key with keys output from the memories, a first-hash-function calculation section for associating the externally input key with a first address in many-to-one correspondence, a second-hash-function calculation section for associating the first address with a second address in one-to-one correspondence, a data writing processing section for sending the first or second address to the memories to store data, and a data reading processing section for sending the first or second address to the memories to read data.